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Job No: CTCE/BBMP/W.No.17/KS/BM/Stripping/2014-15

03.05.2014

Stripping Value of Road Aggregates (Static Immersion Test)

IS: 6241

Client	**Asst. Executive Engineer,** Yeshwanthapura Sub Division, BBMP, Bangalore.
Agency	**Mr. K. Shivakumar,** Contractor, Bangalore.
Name of the work	Providing and laying HDPE Water line in Muthyalanagara Block - 3 in J P Park, Ward No.17, BBMP, Bangalore.
Reference	EE/RRND/Wo.No/236/2013-14 Dated: 07.02.2014
Type of Mix	Bituminous Macadam
Date of Testing	03.05.2014

Type of binder : 60/70

Percentage of binder used : 5.0% by wt.

Total weight of aggregate : 200 g

Total weight of binder : 10.0 g

Temperature of water-bath : 40° C

Observation Number	Stripping, Percentage	Average, Percentage	Average Retained Coating, %
1	3.6	3.30	96.70
2	3.2		
3	3.1		

Comments:

→ Minimum allowable Aggregate retained coating for Bituminous Macadam is 95%

Note:

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Job No: CTCE/BBMP/W.No.17/KS/BM/Sp_Wa/2014-15

03.05.2014

Specific Gravity And Water Absorption Test

IS: 2386 Part III

Client	**Asst. Executive Engineer,** Yeshwanthapura Sub Division, BBMP, Bangalore.
Agency	**Mr. K. Shivakumar,** Contractor, Bangalore.
Name of the Work	Providing and laying HDPE Water line in Muthyalanagara Block - 3 in J P Park, Ward No.17, BBMP, Bangalore.
Reference	EE/RRND/Wo.No/236/2013-14 Dated: 07.02.2014
Source / Location	Hotmix Plant, Bangalore.
Type of Mix	Bituminous Macadam
Date of Testing	03.05.2014

Sl. No.	Details	Notation	Test Number			Mean Value
			Test 1	Test 2	Test 2	
1	Weight of aggregate suspended in water with the basket	W_1 g	2022	2023	2024	
2	Weight of basket suspended in water	W_2 g	750	750	750	
3	Weight of saturated aggregate in water	$(W_1 - W_2) = W_s$ g	1272	1273	1274	
4	Weight of saturated surface dry aggregate in air	W_3 g	2010	2012	2013	
5	Weight of water equal to the volume of the aggregate	$(W_3 - W_S)$ g	738	739	739	
6	Weight of oven dried aggregate	W_4 g	1996	1998	2000	
7	Specific Gravity	$W_4/(W_3-W_S)$	2.705	2.704	2.706	2.705
8	Apparent Specific gravity	$W_4/(W_4-W_S)$	2.757	2.756	2.755	2.756
9	Water Absorption	$((W_3-W_4)*100)/W_4$	0.70%	0.70%	0.65%	0.68%

Comments:

→ Maximum allowable Aggregate Water absorption value for Bituminous Macadam is 2.0%

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Job No.: CTCE/BBMP/W.No.17/KS/BM/Bitumen/2014-15 03.05.2014

BITUMEN CONTENT DETERMINATION OF BITUMINOUS MACADAM MIX

AS per IRC:SP:-11-1984

Client	**Asst. Executive Engineer,** Yeshwanthapura Sub Division, BBMP, Bangalore.
AGENCY	**Mr. K. Shivakumar,** Contractor, Bangalore.
NAME OF THE WORK	Providing and laying HDPE Water line in Muthyalanagara Block - 3 in J P Park, Ward No.17, BBMP, Bangalore.
REFERENCE	EE/RRND/Wo.No/236/2013-14 Dated: 07.02.2014
SAMPLE I/D	HDPE Water line in Muthyalanagara Block - 3 in J P Park, Ward No.17.
DATE OF TESTING	03.05.2014

BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	482	482
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	18	18.00
7. Bitumen content in %	3.60	3.60
8. Average	**3.60**	

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Job No.: CTCE/BBMP/W.No.17/KS/BM/Bitumen/2014-15 03.05.2014

GRADATION DETERMINATION OF BITUMINOUS MACADAM MIX

As per IS2386 and IRC:SP:11-1984

Client	**Asst. Executive Engineer,** Yeshwanthapura Sub Division, BBMP, Bangalore.
AGENCY	**Mr. K. Shivakumar,** Contractor, Bangalore.
NAME OF THE WORK	Providing and laying HDPE Water line in Muthyalanagara Block - 3 in J P Park, Ward No.17, BBMP, Bangalore.
REFERENCE	EE/RRND/Wo.No/236/2013-14 Dated: 07.02.2014
SAMPLE I/D	HDPE Water line in Muthyalanagara Block - 3 in J P Park, Ward No.17.
DATE OF TESTING	03.05.2014

GRADATION AFTER EXTRACTION

Sieve Size in mm	Trail 1				Specified Limits as per MORTH specification table 500-04 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
26.5	0	0	0	100	100
19	34.26	7.11	7.11	92.89	90-100
13.2	86.35	17.91	25.02	74.98	56-88
4.75	256.3	53.17	78.20	21.80	16-36
2.36	61.22	12.70	90.90	9.10	4-19
0.3	25.31	5.25	96.15	3.85	2-10
0.075	5.21	1.08	97.23	2.77	0-8

Þ The results indicated above are based on the tests carried	Trail 2				Specified Limits as per MORTH specification table 500-04 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
26.5	0	0		100	100
19	32.26	6.69	6.69	93.31	90-100
13.2	82.32	17.08	23.77	76.23	56-88
4.75	255.5	53.01	76.78	23.22	16-36
2.36	61.22	12.70	89.48	10.52	4-19
0.3	24.12	5.00	94.49	5.51	2-10
0.075	6.32	1.31	95.80	4.20	0-8

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Job No: CTCE/BBMP/W.No.17/KS/BM/Agg.G/2014-15 03.05.2014

Aggregate Gradation Test

IS : 2386 Part I

Client	**Asst. Executive Engineer,** Yeshwanthapura Sub Division, BBMP, Bangalore.
Agency	**Mr. K. Shivakumar,** Contractor, Bangalore.
Name of the work	Providing and laying HDPE Water line in Muthyalanagara Block - 3 in J P Park, Ward No.17, BBMP, Bangalore.
Reference	EE/RRND/Wo.No/236/2013-14 Dated: 07.02.2014
Sample ID	Hotmix Plant, Bangalore.
Type of Mix	Bituminous Macadam
Date of Testing	03.05.2014

Total Weight of Sample: **5050** gm

SIEVE SIZE, mm	Weight Retained, gm	% Retained	Cummulative % Retained	% Passing	Grade-II As per MORTH	Remarks
26.5	0	0	0	100	100	Gradation satisfies Grade-II MORTH specification
19	330	6.53	6.53	93.47	90-100	
13.2	1615	31.98	38.51	61.49	56-88	
4.75	1415	28.02	66.53	33.47	16-36	
2.36	985	19.50	86.04	13.96	4-19	
0.3	385	7.62	93.66	6.34	2-10	
0.075	145	2.87	96.53	3.47	0-8	

Total Weight of Sample: **5100** gm

SIEVE SIZE, mm	Weight Retained, gm	% Retained	Cummulative % Retained	% Passing	Grade-II As per MORTH	Remarks
26.5	0	0	0	100	100	Gradation satisfies Grade-II MORTH specification
19	235	4.61	4.61	95.39	90-100	
13.2	1605	31.47	36.08	63.92	56-88	
4.75	1485	29.12	65.20	34.80	16-36	
2.36	920	18.04	83.24	16.76	4-19	
0.3	435	8.53	91.76	8.24	2-10	
0.075	115	2.25	94.02	5.98	0-8	

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